X-1461 US PATENT

ABSTRACT

Method and apparatus for thermally conditioning a microchip is described. The microchip (104) is thermally conditioned responsive to a temperature target over an interval of time. A diode voltage of a diode (503) of the microchip (104) is measured from which diode temperature is determined. The diode temperature is compared with the temperature target to determine a temperature error. This thermal conditioning may be repeated, where interval times are adjustable responsive to temperature error, until a stabilization band (401) is reached. Because a diode (503) of the microchip (104) is used, junction temperature, as opposed to external surface temperature of the microchip package, is obtained. Accordingly, a thermocouple attached to the external surface of the microchip is not needed.